



All Composite Cylinder Stands Up to Harsh Fumes

Challenge:

A customer desired an all-composite cylinder for their semiconductor application that could withstand the harsh environment of hydrochloric acid fumes used for surface cleaning. This required both the cylinder rod and body to be made of, or coated in, plastic.

Solution:

Bimba's engineering team confirmed that PVDF, a highly non-reactive and pure thermoplastic fluoropolymer, was suitable for the application and for the cylinder's piston rod construction. Bimba applied the Double-Wall cylinder concept to protect the standard 304 stainless steel cylinder from the harsh fume environment. To create a protective sheath, the Bimba PC plastic end caps were sealed to the cylinder body with PTFE. Perfluorinated ether lubricant, a substance compliant in semiconductor applications, was also used. This all-composite cylinder delivered superior chemical resistance while providing the excellent life and rugged wear characteristic of a Bimba Original Line Cylinder.



Benefits:

- Corrosion resistant exterior
- No exposed metal
- Proven actuator performance with internal materials

Other Applications:

- Food
- Medical
- Washdown

